

LISTING OF THE CLAIMS

The following listing, if entered, replaces all prior versions of the claims in the present application.

1. (Previously Presented) A method for communicating comprising:
controlling a user interface presented by a web browser comprising:
causing a web server to push an asynchronous message to the web browser
in response to an incoming event, wherein
the incoming event is an event other than a request for information
from the web server,
the web browser presents a user interface change in response to the
asynchronous message, and
the incoming event is received by a communication server;
causing the web browser to provide a wait request to the web server
wherein, the wait request is associated with the web browser, and
the wait request is other than a request for information from the
web server;
identifying a source of the asynchronous message; and
associating the wait request with the source, wherein the associating
identifies the web browser as a recipient of the asynchronous
message.
2. (Original) The method of claim 1 further comprising:
generating the asynchronous message.
3. (Original) The method of claim 1 further comprising:
preparing to receive the asynchronous message.
- 4-5. (Cancelled)

6. (Previously Presented) The method of claim 1 further comprising:
generating the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and
providing the asynchronous message to the web server.
7. (Original) The method of claim 6 wherein causing the web browser to provide the wait request comprises:
downloading requesting instructions to the web browser, wherein the downloading causes the web browser to execute the requesting instructions.
8. (Original) The method of claim 6 further comprising:
storing a reference to a callback function with information from the wait request;
and
using the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.
9. (Original) The method of claim 8 further comprising:
providing the callback function with context information, the context information identifying the web browser.
10. (Original) The method of claim 6 further comprising:
assigning the wait request to a connection between the web server and a business process server; and
listening to the connection for the asynchronous message.
11. (Original) The method of claim 6 further comprising:
assigning the wait request to a session between the web server and a business process server, the session being associated with a connection; and
listening to the connection for the asynchronous message for the session.

12. (Original) The method of claim 1 wherein causing the web server to push the asynchronous message comprises:
 - calling a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message.
13. (Original) The method of claim 12 further comprising:
 - storing a reference to the callback function; and
 - using the reference for calling the callback function.
14. (Original) The method of claim 13 further comprising:
 - storing a second reference to context information, the context information identifying the web browser; and
 - using the second reference for providing the context information to the callback function.
15. (Currently Amended) The method of claim 1 wherein the change in the user interface comprises at least one of a group consisting of the following:
 - causing a first user interface object to move to visually capture a user's attention;
 - causing a second user interface object to issue a sound to capture the user's attention;
 - presenting a screen pop of data; and
 - bringing a web browser window to the front of a screen.
16. (Previously Presented) A method for communicating comprising:
 - causing a web server to push an asynchronous message to a web browser in response to an incoming event, wherein
 - the incoming event is an event other than a request for information from the web server,
 - the web browser performs an action in response to the asynchronous message, and
 - the incoming event is received by a communication server;

causing the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server; identifying a source of the asynchronous message; and associating the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.

17. (Original) The method of claim 16 wherein the asynchronous message includes an action instruction to cause the web browser to perform the action.
18. (Original) The method of claim 16 wherein the performing the action comprises performing at least one of a group consisting of the following:

causing a first user interface object to move to visually capture a user's attention;
causing a second user interface object to issue a sound to capture the user's attention;
presenting a screen pop of data; and
bringing a web browser window to front of screen.
19. (Previously Presented) A method for communicating comprising:

establishing a first connection between a web browser and a web server;
establishing a second connection between the web server and a business process server;
controlling a user interface presented by the web browser comprising:
registering the web browser with the business process server;
providing the web server with an asynchronous message to push to the web browser, the providing being performed by the business process server and the providing being performed in response to an incoming event, wherein the incoming event is an event other than a request for information from the web server;
and
causing the web server to push the asynchronous message to the web browser;
wherein the web browser performs a user interface change in response to the

asynchronous message;

the incoming event is received by a communication server;

causing the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;

identifying a source of the asynchronous message; and

associating the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.

20. (Previously Presented) A method for communicating comprising:

controlling a user interface presented by a web browser comprising:

registering the web browser as available to receive an asynchronous message, wherein

the web browser is not blocked waiting for the asynchronous message;

causing a web server to push the asynchronous message to the web browser in response to an incoming event, wherein

the incoming event is an event other than a request for information from the web server,

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server;

causing the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;

identifying a source of the asynchronous message; and

associating the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message.

21. (Currently Amended) A method for communicating comprising:
controlling a user interface presented by a web browser comprising:
causing the web browser to provide a wait request to a web server, the
wait request being associated with the web browser, and the wait
request is other than a request for information from the web
server;
identifying a source of an asynchronous message;
associating the wait request with the source, wherein the associating
identifies the web browser as a recipient of the asynchronous
message;
pushing the asynchronous message to the web browser in response to an
incoming event, wherein
the incoming event is an event other than a request for information
from the web server,
the browser presents a user interface change in response to the
asynchronous message, and
the incoming event is received by a communication server;
~~causing the web browser to provide a wait request to the web server~~
~~wherein, the wait request is associated with the web browser,~~
~~and the wait request is other than a request for information~~
~~from the web server;~~
identifying a source of the asynchronous message; and
associating the wait request with the source, wherein the associating
identifies the web browser as a recipient of the asynchronous
message.

22. (Previously Presented) A method for communicating comprising:
controlling a user interface presented by a web browser comprising:
causing the web browser to provide a wait request to a web server,
wherein
the wait request is associated with the web browser and a target
from which an asynchronous message originates, and
the wait request is other than a request for information from the

web server;

generating the asynchronous message, the asynchronous message identifying the web browser as a recipient of the asynchronous message, the generating being performed by the target;

providing the asynchronous message to the web server; and

causing the web server to push the asynchronous message to the web browser in response to an incoming event, wherein the incoming event is an event other than a request for information from the web server,

the web browser presents a user interface change in response to the asynchronous message; and

the incoming event is received by a communication server.

23. (Previously Presented) A computer program product comprising:

controlling instructions to control a user interface presented by a web browser comprising:

pushing instructions to cause a web server to push an asynchronous message to the web browser in response to an incoming event, wherein the incoming event is an event other than a request for information from the web server,

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server;

providing instructions to cause the web browser to provide a wait request to the web server, the wait request being associated with the web browser;

identifying instructions to identify a source of the asynchronous message; and

associating instructions to associate the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message; and

a computer-readable medium for storing the controlling instructions, the pushing instructions, the providing instructions, the identifying instructions, and the associating instructions.

24. (Cancelled)
25. (Original) The computer program product of claim 23 further comprising:
request providing instructions to cause the web browser to provide a wait request to the web server, the wait request being associated with the web browser; generating instructions to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and message providing instructions to provide the asynchronous message to the web server;
wherein the computer-readable medium further stores the request providing instructions, the generating instructions, and the message providing instructions.
26. (Original) The computer program product of claim 25 further comprising:
storing instructions to store a reference to a callback function with information from the wait request; and
using instructions to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message;
wherein the computer-readable medium further stores the storing instructions and the using instructions.
27. (Original) The computer program product of claim 26 further comprising:
context providing instructions to provide the callback function with context information, the context information identifying the web browser;
wherein the computer-readable medium further stores the context providing instructions.

28. (Original) The computer program product of claim 25 further comprising:
assigning instructions to assign the wait request to a connection between the web server and a business process server; and
listening instructions to listen to the connection for the asynchronous message; wherein the computer-readable medium further stores the assigning instructions and the listening instructions.
29. (Original) The computer program product of claim 23 wherein the pushing instructions comprise:
calling instructions to call a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message;
and
the computer-readable medium further stores the calling instructions.
30. (Original) The computer program product of claim 29 further comprising:
reference storing instructions to store a reference to the callback function; and
reference using instructions to use the reference for calling the callback function; wherein the computer-readable medium further stores the reference storing instructions and the reference using instructions.
31. (Original) The computer program product of claim 30 further comprising:
context storing instructions to store a second reference to context information, the context information identifying the web browser; and
context using instructions to use the second reference for providing the context information to the callback function;
wherein the computer-readable medium further stores the context storing instructions and the context using instructions.

32. **(Currently Amended)** The computer program product of claim 23 further comprising:

user interface changing instructions configured to perform at least one of a group consisting of the following:

cause a first user interface object to move to visually capture a user's attention;

cause a second user interface object to issue a sound to capture the user's attention;

present a screen pop of data; and

bring a web browser window to the front of a screen;

wherein the computer-readable medium further stores the user interface changing instructions.

33. **(Currently Amended)** A computer program product comprising:

controlling instructions to control a user interface presented by a web browser comprising:

registering instructions to register the web browser as available to receive an asynchronous message, wherein the web browser is not blocked waiting for the asynchronous message;

and

pushing instructions to cause a web server to push the asynchronous message to the web browser in response to an incoming event, wherein

the incoming event is an event other than a request for information from the web server,

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server;

providing instructions to cause the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;

identifying instructions to identify a source of the asynchronous message; and
associating instructions to associate the wait request with the source, wherein the
associating identifies the web browser as a recipient of the asynchronous
message; and

a computer-readable medium for storing the controlling instructions, the
registering instructions, the pushing instructions, the providing
instructions, the identifying instructions, and the associating instructions.

~~a computer readable medium for storing the controlling instructions, the
pushing instructions.~~

34. (Previously Presented) A computer system comprising:
 - a processor;
 - a memory, the memory storing instructions for executing on the processor, the
instructions comprising:
 - controlling instructions to control a user interface presented by a web
browser comprising:
 - pushing instructions to cause a web server to push an asynchronous
message to the web browser in response to an incoming
event, wherein
the web browser presents a user interface change in
response to the asynchronous message, and
the incoming event is received by a communication server;
 - providing instructions to cause the web browser to provide a wait
request to the web server, the wait request being associated
with the web browser;
 - identifying instructions to identify a source of the asynchronous
message; and
 - associating instructions to associate the wait request with the
source, wherein the associating identifies the web browser
as a recipient of the asynchronous message.

35. (Cancelled)

36. (Original) The computer system of claim 34 wherein the instructions further comprise:

request providing instructions to cause the web browser to provide a wait request to the web server, the wait request being associated with the web browser; generating instructions to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and message providing instructions to provide the asynchronous message to the web server.

37. (Original) The computer system of claim 36 wherein the instructions further comprise:

storing instructions to store a reference to a callback function with information from the wait request; and using instructions to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.

38. (Original) The computer system of claim 37 wherein the instructions further comprise:

context providing instructions to provide the callback function with context information, the context information identifying the web browser.

39. (Original) The computer system of claim 36 wherein the instructions further comprise:

assigning instructions to assign the wait request to a connection between the web server and a business process server; and listening instructions to listen to the connection for the asynchronous message.

40. (Original) The computer system of claim 34 wherein the pushing instructions comprise:

calling instructions to call a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message.

41. (Original) The computer system of claim 40 wherein the instructions further comprise:

reference storing instructions to store a reference to the callback function; and
reference using instructions to use the reference for calling the callback function.

42. (Original) The computer system of claim 41 wherein the instructions further comprise:

context storing instructions to store a second reference to context information, the context information identifying the web browser; and
context using instructions to use the second reference for providing the context information to the callback function.

43. (Currently Amended) The computer system of claim 34 wherein the instructions further comprise:

user interface changing instructions configured to perform at least one of a group consisting of the following:
cause a first user interface object to move to visually capture a user's attention;
cause a second user interface object to issue a sound to capture the user's attention;
present a screen pop of data; and
bring a web browser window to the front of a screen.

44. (Previously Presented) A computer system comprising:

a processor;
a memory, the memory storing instructions for executing on the processor, the instructions comprising:
controlling instructions to control a user interface presented by a web browser comprising:
registering instructions to register the web browser as available to receive an asynchronous message, wherein the web browser is not blocked waiting for the asynchronous message;

pushing instructions to cause a web server to push the asynchronous

message to the web browser in response to an incoming event,
wherein
the incoming event is an event other than a request for information
from the web server,
the web browser presents a user interface change in response to the
asynchronous message, and
the incoming event is received by a communication server.
providing instructions to cause the web browser to provide a wait request
to the web server wherein, the wait request is associated with the
web browser, and the wait request is other than a request for
information from the web server;
identifying instructions to identify a source of the asynchronous message;
and
associating instructions to associate the wait request with the source,
wherein the associating identifies the web browser as a recipient of
the asynchronous message.

45. (Currently Amended) A system comprising:
a client computer comprising:
a web browser, wherein the web browser presents a user interface;
a server computer coupled to the client computer, wherein the server
computer comprises
controlling means for controlling [[a]] the user interface presented
by [[a]] the web browsercomprising:,
pushing means for causing a web server to push an asynchronous
message to the web browser in response to an incoming
event, wherein
the incoming event is an event other than a request for
information from the web server,
the web browser presents a user interface change in
response to the asynchronous message, and
the incoming event is received by a communication
server[[,]],

~~providing means for causing the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;~~
identifying means for identifying a source of the asynchronous message[[;]], and
associating means for associating [[the]] a wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message, and
the client computer comprises
providing means for causing the web browser to provide the
wait request to the web server,
the wait request is associated with the web browser, and
the wait request is other than a request for information from
the web server.

46. (Cancelled)
47. (Currently Amended) The system of claim 45, the server computer further comprising:
~~request providing means for causing the web browser to provide a wait request to the web server, the wait request being associated with the web browser;~~
generating means for generating the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and
message providing means for providing the asynchronous message to the web server.
48. (Currently Amended) The system of claim 47, the server computer further comprising:
storing means for storing a reference to a callback function with information from the wait request; and
using means for using the reference to call the callback function when the

asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message.

49. **(Currently Amended)** The system of claim 48, the client computer further comprising:

context providing means for providing the callback function with context information, the context information identifying the web browser.

50. **(Currently Amended)** The system of claim 47, the server computer further comprising:

assigning means for assigning the wait request to a connection between the web server and a business process server; and

listening means for listening to the connection for the asynchronous message.

51. (Original) The system of claim 45 wherein the pushing means comprise:
calling means for calling a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message.

52. **(Currently Amended)** The system of claim 51, the server computer further comprising:

reference storing means for storing a reference to the callback function; and
reference using means for using the reference for calling the callback function.

53. **(Currently Amended)** The system of claim 52, the server computer further comprising:

context storing means for storing a second reference to context information, the context information identifying the web browser; and
context using means for using the second reference for providing the context information to the callback function.

54. **(Currently Amended)** The system of claim 45, the client computer further comprising:

user interface changing means configured to perform at least one of a group consisting of the following:

cause a first user interface object to move to visually capture a user's attention;
cause a second user interface object to issue a sound to capture the user's attention;
present a screen pop of data; and
bring a web browser window to front of screen.

55. **(Currently Amended)** A system comprising:

a client computer comprising:

a web browser, wherein the web browser presents a user interface;

a server computer coupled to the client computer, wherein the server computer comprises

controlling means for controlling a user interface presented by a web browser, ~~comprising:~~

registering means for registering the web browser as available to receive an asynchronous message, wherein

the web browser is not blocked waiting for the asynchronous message[();], and

pushing means for causing a web server to push the asynchronous message to the web browser in response to an incoming event, wherein

the incoming event is an event other than a request for information from the web server,

the web browser presents a user interface change in response to the asynchronous message, and

the incoming event is received by a communication server, identifying means for identifying a source of the asynchronous message[();] ~~and,~~

associating means for associating [[the]] ~~a~~ wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message, ~~and~~

the client computer comprises

providing means for causing the web browser to provide the

wait request to the web server,
the wait request is associated with the web browser, and
the wait request is other than a request for information from
the web server.

56. (Cancelled)
57. (Cancelled)
58. **(Currently Amended)** A system comprising:
a controlling module to control a user interface presented by a web browser comprising:
a pushing module to cause a web server to push an asynchronous message to the web browser in response to an incoming event, wherein the incoming event is an event other than a request for information from the web server,
the web browser presents a user interface change in response to the asynchronous message, and
the incoming event is received by a communication server;
a request providing module to cause the web browser to provide a wait request to the web server wherein, the wait request is associated with the web browser, and the wait request is other than a request for information from the web server;
an identifying module to identify a source of the asynchronous message; **[[and]]**
an associating module to associate the wait request with the source, wherein the associating identifies the web browser as a recipient of the asynchronous message; **and**
a computer readable storage medium configured to store the controlling module, pushing module, request providing module, identifying module, and associating module.
59. (Cancelled)
60. **(Currently Amended)** The system of claim 58 further comprising:
~~a request providing module to cause the web browser to provide a wait~~

~~request to the web server, the wait request being associated with the web browser;~~

a generating module to generate the asynchronous message, the asynchronous message identifying the wait request, wherein the identifying identifies the web browser as a recipient of the asynchronous message; and
a message providing module to provide the asynchronous message to the web server, wherein

the computer readable storage medium is configured to store the generating module and message providing module.

61. **(Currently Amended)** The system of claim 60 further comprising:
a storing module to store a reference to a callback function with information from the wait request; and
a using module to use the reference to call the callback function when the asynchronous message is provided to the web server, wherein the callback function pushes the asynchronous message, wherein
the computer readable storage medium is configured to store the storing module and using module.
62. **(Currently Amended)** The system of claim 61 further comprising:
a context providing module to provide the callback function with context information, the context information identifying the web browser,
wherein
the computer readable storage medium is configured to store the context providing module.
63. **(Currently Amended)** The system of claim 60 further comprising:
an assigning module to assign the wait request to a connection between the web server and a business process server; and
a listening module to listen to the connection for the asynchronous message,
wherein
the computer readable storage medium is configured to store the assigning module and listening module.

64. **(Currently Amended)** The system of claim 58 wherein the pushing means comprise:

a calling module to call a callback function associated with the web browser when the asynchronous message is received, wherein the callback function pushes the asynchronous message, wherein
the computer readable storage medium is configured to store the calling module.

65. **(Currently Amended)** The system of claim 64 further comprising:

a reference storing module to store a reference to the callback function; and a reference using module to use the reference for calling the callback function, wherein
the computer readable storage medium stores the reference storing module and the reference using module.

66. **(Currently Amended)** The system of claim 65 further comprising:

a context storing module to store a second reference to context information, the context information identifying the web browser; and a context using module to use the second reference for providing the context information to the callback function, wherein
the computer readable storage medium stores the context storing module and the context using module.

67. **(Currently Amended)** The system of claim 58 further comprising:

a user interface changing module configured to perform at least one of a group consisting of the following:

cause a first user interface object to move to visually capture a user's attention;

cause a second user interface object to issue a sound to capture the user's attention;

present a screen pop of data; and

bring a web browser window to front of screen, wherein
the computer readable storage medium is configured to store the user interface changing module.

68. (Previously Presented) The method of claim 1 further comprising:
opening a persistent hypertext transfer protocol (HTTP) connection between the
web browser and the web server when a user logs in; and
closing the persistent HTTP connection between the web browser and the web
server in response to the web server pushing the asynchronous message to
the web browser.